

Application No. 09/830,794  
Amendment Dated July 17, 2003  
Reply to Office action of January 17, 2003

### REMARKS

By the amendments presented, Claims 11, 29, and 30 are amended to encompass a preferred embodiment of the invention wherein the composition contains a particular polymer. Support for this amendment is found in the original Specification at Pages 14-18.

Upon entry of the amendments presented, Claims 11-30 remain in the application. No new matter is added and no additional claims fee is believed to be due as a result of these amendments

### INVENTION SYNOPSIS

The present invention relates to heavy duty liquid laundry detergent compositions comprising a surfactant system, and a polymer, wherein the polymer is selected from the group consisting of modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof; and the surfactant system comprises from about 0.1% to about 20%, by weight of the surfactant system of an alkyl benzene sulfonate surfactant, and wherein the surfactant system has a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2. The  $HI_C$  is calculated as follows:

$$HI_C = \sum_y (\text{weight \% of surfactant } y \text{ in the surfactant system}) \times (HI_{Sy})$$

where  $HI_{Sy}$  is calculated for each of the surfactants in the surfactant system as follows:

$$HI_{Sy} = 20 \times \frac{(\text{the molecular weight of the hydrophilic portion of surfactant component } y)}{(\text{the molecular weight of surfactant component } y)}.$$

### ART REJECTIONS

#### 35 U.S.C. § 102 (or alternatively 103(a))

##### a) 102(b) or alternatively 103(a) over Robinson, et al.

Claims 11, 12, 15-17, 22, 23, and 27-30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Robinson, et al. (U.S. Patent 4,411,831). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

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As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Robinson.

Robinson relates to liquid laundry detergents which may contain 16.7% of an alkene benzene sulphonate surfactant. However, Robinson fails to teach (either directly or inherently) a liquid laundry detergent having a Hydrophilic Index,  $HIC$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HIC$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Robinson fails to teach either of these elements. Since the Robinson reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore cannot anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Robinson. Robinson provides no teaching or suggestion to one of ordinary skill that the selection of particular  $HIC$  and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Robinson does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Robinson reference. Accordingly, a rejection over Robinson under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**b) 102(b) or alternatively 103(a) over Inamorato, et al.**

Claims 11, 12, 16, 17, 22, 23, 29 and 30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Inamorato, et al. (U.S. Patent 4,092,273). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Inamorato.

Inamorato relates to liquid laundry detergents which may contain 20% of an alkene benzene sulphonate surfactant. However, Inamorato fails to teach (either directly or inherently),

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a liquid laundry detergent having a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Inamorato fails to teach either of these elements. Since the Inamorato reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Inamorato. Inamorato provides no teaching or suggestion to one of ordinary skill that the selection of any particular  $HI_C$  and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Robinson does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Inamorato reference. Accordingly, a rejection over Inamorato under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**c) 102(b) or alternatively 103(a) over Arnau, et al.**

Claims 11, 12, 16, 17, 22, 23, 29, and 30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Arnau, et al. (U.S. Patent 4,147,649). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Arnau, et al.

Arnau relates to liquid laundry detergents which may contain 20% of an alkene benzene sulphonate surfactant. However, Arnau fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2 and contain a

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polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Arnau fails to teach either of these elements. Since the Arnau reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Arnau. Arnau provides no teaching or suggestion to one of ordinary skill that the selection of any particular HIC and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Arnau does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Arnau reference. Accordingly, a rejection over Arnau under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**d) 102(b) or alternatively 103(a) over Smith, et al.**

Claims 11, 12, 15-18, 22, 23, 29, and 27-30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Smith, et al. (U.S. Patent 4,333,862). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Smith, et al.

Smith relates to liquid laundry detergents which may contain 17% of an alkene benzene sulphonate surfactant. However, Smith fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Smith fails to teach either of these elements. Since the Smith reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

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Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Smith. Smith provides no teaching or suggestion to one of ordinary skill that the selection of any particular HIC and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Smith does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Smith reference. Accordingly, a rejection over Smith under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**e) 102(b) or alternatively 103(a) over Collins**

Claims 11, 12, 16, 17, 22, 23, 29, and 30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Collins (U.S. Patent 3,869,399). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Collins.

Collins relates to liquid laundry detergents which may contain 16.2% of an alkene benzene sulphonate surfactant. However, Collins fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HIC$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HIC$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Collins fails to teach either of these elements. Since the Collins reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Collins. Collins provides no teaching or suggestion to one of ordinary skill that the selection of any particular HIC and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Collins does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as

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amended herein, are not rendered unpatentably obvious by the teachings of the Collins reference. Accordingly, a rejection over Collins under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**1) 102(b) or alternatively 103(a) over Wixon**

Claims 11, 12, 15-18, 22, 23, 29, and 27-30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Wixon (U.S. Patent 5,290,475). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Wixon.

Wixon relates to liquid laundry detergents which may contain 12.5% of an alkene benzene sulphonate surfactant. However, Wixon fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HIC$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HIC$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Wixon fails to teach either of these elements. Since the Wixon reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Wixon. Wixon provides no teaching or suggestion to one of ordinary skill that the selection of any particular  $HIC$  and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Wixon does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Wixon reference. Accordingly, a rejection over Wixon under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

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**g) 102(b) or alternatively 103(a) over Crossin**

Claims 11-13, 15-17, and 22-30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Crossin (U.S. Patent 4,759,876). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Crossin.

Crossin relates to liquid laundry detergents which may contain 18% of an alkene benzene sulphonate surfactant. However, Crossin fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Crossin fails to teach either of these elements. Since the Crossin reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Crossin. Crossin provides no teaching or suggestion to one of ordinary skill that the selection of any particular  $HI_C$  and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Crossin does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Crossin reference. Accordingly, a rejection over Crossin under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**h) 102(b) or alternatively 103(a) over Peterson, et al.**

Claims 11, 16, 17, 22, 23, 29, and 27-30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Peterson, et al. (U.S. Patent 4,874,537). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

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As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Peterson, et al.

Peterson relates to liquid laundry detergents which may contain 5.4% of an alkene benzene sulphonate surfactant. However, Peterson fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HIC$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HIC$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Peterson fails to teach either of these elements. Since the Peterson reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Peterson. Peterson provides no teaching or suggestion to one of ordinary skill that the selection of any particular  $HIC$  and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Peterson does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Peterson reference. Accordingly, a rejection over Peterson under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

i) 102(b) or alternatively 103(a) over Wertz, et al.

Claims 11-17, 21-30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Wertz, et al. (U.S. Patent 4,561,998). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Wertz, et al.

Wertz relates to liquid laundry detergents which may contain 22.5% of an alkene benzene sulphonate surfactant. However, Wertz fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HIC$ , of from about 8.0 to about 9.2, and



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containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Wertz fails to teach either of these elements. Since the Wertz reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Wertz. Wertz provides no teaching or suggestion to one of ordinary skill that the selection of any particular  $HIC$  and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Wertz does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Wertz reference. Accordingly, a rejection over Wertz under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**j) 102(b) or alternatively 103(a) over Hennemann, et al.**

Claims 11, 12, 15-18, 22, 23, 29, and 27-30 have all been rejected under 35 U.S.C. § 102(b) as anticipated by, or alternatively under 35 U.S.C. § 103(a) as obvious over Hennemann, et al. (U.S. Patent 4,333,862). Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As will be more fully discussed below, Applicants respectfully submit that the compositions of the present invention are both novel and unobvious over the teachings of Hennemann, et al.

Hennemann relates to liquid laundry detergents which may contain 20% of an alkene benzene sulphonate surfactant. However, Hennemann fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HI_C$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein, require that the liquid laundry detergent compositions of the present invention have a Hydrophilic Index,  $HI_C$  of from about 8.0 to about 9.2 and contain a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-

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polyamines, and mixtures thereof. Hennemann fails to teach either of these elements. Since the Hennemann reference fails to teach two of the claim elements, it does not meet all of the material claim limitations of the present invention and therefore does not anticipate the pending claims.

Furthermore, the claims of the present invention, as amended herein, are not obvious in view of Hennemann. Hennemann provides no teaching or suggestion to one of ordinary skill that the selection of any particular HIC and/or any polymer, in combination with an alkene benzene surfactant would be useful or desirable.

Given the foregoing considerations, it is submitted that Hennemann does not teach each and every element of Applicants' claims, as amended herein. Furthermore, Applicants' Claims, as amended herein, are not rendered unpatentably obvious by the teachings of the Hennemann reference. Accordingly, a rejection over Hennemann under 35 U.S.C. § 102(b) or alternatively under § 103(a) is improper and should be withdrawn.

**35 U.S.C. § 103(a) over Wertz, et al.**

Claims 1-30 have been rejected under 35 U.S.C. § 103(a) as being obvious over Wertz (U.S. Patent No. 4,561,998). The Office Action argues that it would have been obvious to modify the liquid laundry detergents of Wertz, et al. include additional adjunct materials and thereby realize the present invention. Applicants respectfully traverse this rejection as applied to the claims as amended herein.

As discussed above, Wertz relates to liquid laundry detergents which may contain 22.5% of an alkene benzene sulphonate surfactant. However, Wertz fails to teach (either directly or inherently), a liquid laundry detergent having a Hydrophilic Index,  $HL_C$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof.

The claims as amended herein relate to a liquid composition having a Hydrophilic Index,  $HL_C$ , of from about 8.0 to about 9.2, and containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Applicants submit that there is no motivation provided in Wertz to modify the Wertz liquid compositions to have a particular hydrophilic index or to add a particular polymer. Nothing in Wertz suggests that it would be useful or desirable to select a particular range of alkene benzene sulphonate surfactant, a formulation having a Hydrophilic Index,  $HL_C$ , of from about 8.0 to about 9.2, or containing a polymer selected from modified polyamines, polyamide-polyamines, polyethoxylated-polyamines, and mixtures thereof. Certainly, Wertz provides no motivation to combine these elements to realize the present invention as now claimed.


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Given the foregoing considerations, it is submitted that the rejection has failed to make a *prima facie* case of obviousness as there was no motivation to modify the detergent compositions of Wertz in order to realize the present invention. Accordingly, rejection over Wertz under 35 U.S.C. §103(a) is improper and should be withdrawn.

### **CONCLUSION**

Applicants have made an earnest effort to place their application in proper form and to distinguish their invention from the applied prior art. WHEREFORE, Applicants respectfully request the reconsideration of this application, withdrawal of the disclosure objection, withdrawal of the rejections under 35 U.S.C. § 102(b) and 35 U.S.C. §103(a), and allowance of Claims 11 to 30.

Respectfully submitted,  
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